DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

and
HEADQUARTERS
UNITED STATES MARINE CORPS
WASHINGTON D.C. 20830

IN REPLY REFER TO
OPNAVINST 3550.1
N44
CMC (LFL)
7 August 1998

OPNAV INSTRUCTION 3550.1

From: Chief of Naval Operations
Commandant of the Marine Corps

Subj: RANGE AIR INSTALLATIONS COMPATIBLE USE ZONES (RAICUZ) PROGRAM

Ref: (a) OPNAVINST 11010.36A
(b) OPNAVINST 5090.1B
(c) MCO P5090.2 (NOTAL)
(d) OPNAVNOTE 11010 (NOTAL)

Encl: (1) RAICUZ Program Procedures and Guidelines for DON Air-to-Ground Range Installations

1. Purpose. To establish Department of the Navy policy, procedures, and guidelines for implementation of enclosure (1) and to identify a point of contact for range planning (CNO (N441)), which is responsible for management of the RAICUZ (Range Air Installations Compatible Use Zones) Program.

2. Background. The Department of the Navy's RAICUZ program is designed to protect public health, safety, and welfare, and to prevent encroachment from degrading the operational capability of air-to-ground ranges. This program is similar to the Air Installations Compatible Use Zones (AICUZ) Program issued by reference (a). The RAICUZ program includes range safety and noise analyses, and provides land use recommendations which will be compatible with range safety zones and noise levels associated with the military range operations. Program implementation procedures for the Navy and Marine Corps are contained in enclosure (1).

3. Discussion. The RAICUZ Program depends upon the local command's efforts to work with the nearby communities as well as other federal, state, and local agencies, to prevent incompatible development of land adjacent to military training ranges. The RAICUZ process involves four basic steps:

a. Develop, and periodically update, a RAICUZ plan for each air-to-ground range installation to quantify range safety zones

and aircraft noise zones; develop strategies for lands affected by potential weapons or noise impacts, both on and off the range; prepare a compatible land use plan for the range and surrounding areas; and develop a strategy to promote compatible development on land within these areas.

b. Develop a near-term prospective RAICUZ analysis to illustrate impact of known future missions on RAICUZ implementation.

c. Implement the RAICUZ plan for the installation including coordination with federal, state, and local officials to maintain public awareness of RAICUZ.

d. Identify and program land acquisition in critical areas where action to achieve compatibility within the RAICUZ through local land controls is either impossible or has been attempted and proven unsuccessful.

4. Applicability. This instruction applies to all Navy and Marine Corps air-to-ground range installations within the confines of the United States, its territories, trusts, and possessions. RAICUZ studies, or portions thereof, may be developed for U.S. activities in foreign countries if such action supports host nation policy for protecting the operational capabilities of those activities, or for on base U.S. facility planning goals.

5. Action. Addressees shall comply with the procedures outlined here.

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Brigadier General, U.S. Marine Corps
Acting Deputy Chief of Staff for
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RANGE AIR INSTALLATIONS COMPATIBLE USE ZONES

(RAICUZ)

PROGRAM PROCEDURES

AND

GUIDELINES

FOR

DEPARTMENT OF THE NAVY

AIR-TO-GROUND RANGE INSTALLATIONS

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SECTION I

THE PROCESS

A. THE RAICUZ PROGRAM OBJECTIVES

The purpose of the RAICUZ program is to achieve compatibility between air-to-ground training ranges and existing and proposed land use and airspace in the vicinity of the range installation by meeting the following primary objectives:

1. Preclude public exposure to hazards associated with air-to-ground weapons delivery;

2. Prevent incompatible land development near training range operations (low level overflight, drop hazards, and high noise levels);

3. Protect Navy and Marine Corps investment by safeguarding the operational capabilities of those ranges;

4. Inform the public about the RAICUZ program and seek cooperative efforts to minimize potential safety and noise impact in the vicinity of the air-to-ground range installation.

B. THE RAICUZ STUDY

Each Navy and Marine Corps training range designated by the Chief of Naval Operations (CNO) or the Commandant of the Marine Corps (CMC) shall complete a RAICUZ study including a detailed analysis of current and proposed range utilization, restricted airspace, range safety zones, aircraft noise, land use compatibility, risk areas, and mitigation alternatives for air-to-ground ordnance delivery events. RAICUZ zones are developed by combining noise zones with range safety zones. RAICUZ studies shall be approved by CNO or CMC, as appropriate, and used by the range installation's commanding officer or commanding general to implement the RAICUZ program. Initial studies shall be updated periodically or when special circumstances, such as a new training requirement, dictates such action. Approval is required by the CNO (N441)/CMC (LFL) for weapons safety footprints derived for new tactics, as well as a determination of adequate range surface area to contain potential weapons impacts. Once designated, RAICUZ areas shall not be modified without CNO or CMC approval.

C. OPERATIONAL ALTERNATIVES

To reduce potential off-range weapons impacts and noise levels, each RAICUZ study shall include an evaluation of operational alternatives, e.g., modification of allowable run-in headings, target relocation, operational restrictions, land acquisition (fee simple or restrictive use easements), altering hours of operation, and changes in pattern altitudes. Evaluation of operational alternatives must balance changes in potential weapons impacts with effects on flight safety, operational capability, and cost. The decision to authorize a type of ordnance and/or delivery tactic which could result in potential off-range impacts rests with the local command with appropriate written notification to the installation chain-of-command documenting the required alternatives analysis.

Proposed changes to approved CNO or CMC RAICUZ studies will require further documentation by the local command and CNO/CMC approval. If a RAICUZ update reflects a proposed change in the type or tempo of range operations (e.g., as a result of new aircraft types, significant increase in range operations, new delivery tactics and/or weapons, etc.), the proposal and alternatives analysis must be evaluated in environmental documentation in accordance with reference (b) or (c), as appropriate, before the proposed change in range operations can be implemented.

D. AIRSPACE CONSIDERATIONS

Associated with air-to-ground training ranges are special use airspace, including restricted areas for ordnance delivery and military operating areas (MOA) for high-speed air combat maneuvering. In addition, low-level military training routes (MTR) are utilized to provide ingress and egress to the training ranges. Together, special use airspace and MTRs are critical assets in support of air-to-ground training for naval aviation. Recent changes in the naval shore establishment as a result of base closure and realignment recommendations will result in increased utilization of existing training ranges and special use airspace. To insure that sufficient range and airspace capacity will be available to support existing and future mission requirements (e.g., high altitude bombing, night vision goggle (NVG) training, etc.), a detailed analysis of special use airspace shall be conducted for each air-to-ground training range. The Department of the Navy's Naval Aviation Simulation Model (NASMOD) was developed to enable planners to evaluate complex airfield, range, and airspace scenarios. In addition to providing the capability to fully

assess military airspace training requirements, the impact to military training requirements from proposed changes in civilian and general aviation operations can be fully evaluated. NASMOD is a very effective tool in determining range and airspace capacity and for supporting proposals for new special use airspace, if required, to meet mission requirements. NASMOD program development is under the management of CNO (N441).

E. ENVIRONMENTAL COMPLIANCE

If the RAICUZ study reveals that the type and/or tempo of current operations is either causing or is likely to cause degradation of the surrounding environment, an environmental document is required by the National Environmental Policy Act (NEPA), in accordance with references (b) or (c) standards and procedures, as appropriate. In addition to the impacts addressed in the RAICUZ study, environmental resources that should be considered include impacts to endangered species, marine mammals, migratory birds, cultural resources, and sensitive habitat such as wetlands.

Range operations have the potential to adversely impact cultural resources such as historic structures, archeological sites, Native American rock art, traditional cultural properties and Native American sacred sites, located within the RAICUZ zones. Such impacts trigger Section 106 of the National Historic Preservation Act (NHPA) as well as other historic preservation legislation. Thus, consultation with appropriate State Historic Preservation Officers (SHPO) and other interested parties is an integral part of these studies and should be initiated as early in the process as is feasible. Consultation between Federal agencies and Native Americans is also mandated under several Federal laws. Some issues that are often a concern for Native Americans include construction, training, land use, low-level overflights, ecosystem management of ancestral lands, protection of ancestral sites and sacred sites from vandalism, and access to sacred sites and subsistence and medicinal natural resources.

There may be other environmental issues and concerns. This discussion is not intended to be all-inclusive.

F. IMPLEMENTATION

RAICUZ implementation must be a continuous effort at each air-to-ground range installation. Local command representatives must work toward achieving compatibility

between the installation and its neighboring land owners and users, primarily through land use controls including compatible zoning, land acquisition in fee or restrictive easement, and withdrawal of public domain lands. Local commands have the primary responsibility for identifying potential ordnance and noise impacts and for taking actions to maximize range safety and to minimize off-range noise impacts. Implementation of a successful RAICUZ plan may involve coordination with federal, state, and local agencies. Consultation is a recurring requirement under NHPA, and as the lead Federal agency, the Department of the Navy is responsible for compliance with this legislation. Land acquisition may be considered in critical situations where governmental agencies are unwilling or unable to discharge their responsibilities for achieving land use compatibility within the RAICUZ. Withdrawal of public domain lands requires close cooperation between the Department of Defense (DOD), Department of the Navy (DON), and the Department of the Interior (DOI). Land withdrawals of public domain lands in excess of 5,000 acres require environmental documentation and specific Congressional legislation.

SECTION II

RANGE SAFETY ZONE (RSZ) DEVELOPMENT

A. GENERAL

The core of the RAICUZ program is a compatible land use plan specifically tailored to each air-to-ground range installation. The plan recommends land uses for areas exposed to different levels of potential weapons impact and noise. The RAICUZ is the minimum acceptable area where land use controls are needed in order to minimize impacts on surrounding areas and to protect the installation. RAICUZ related land use recommendations consider only safety and noise.

For land use planning purposes, three critical areas have been defined for varying levels of safety hazard concerns due to potential weapons impact. Range Safety Zone (RSZ) A defines the maximum safety hazard. It is the area described by the weapons safety footprints and represents the weapons impact area (including potential ricochet). RSZ B is the area of armed overflight. RSZ C is the minimum restricted airspace for aircraft to maneuver on the range.

B. DEVELOPMENT OF RSZs

RSZs translate aviation safety concerns into degrees of safety that can be reasonably attained. They provide consideration for safety of flight and persons on the ground relative to dropped ordnance and crash sites. RSZs are provided at air-to-ground ranges independent of annual range utilization. They are used as the basis for differentiating different types of compatible land use. RSZs are more stringent than those for noise impacts because the possible consequences of incompatible development are more serious. Restricted airspace associated with RSZs is used to confine or segregate activities considered to be hazardous to nonparticipating aircraft and is based on the type of ordnance authorized for use at a specific range.

1. RSZ A defines the maximum safety hazard and is also defined as the minimum range surface area needed to contain ordnance employed in air-to-ground training. RSZ A corresponds with the range composite weapons safety footprint.

2. RSZ B is the area of armed overflight, an intermediate level of safety hazard concern. The length of

the zone begins at the point the pilot releases the master arming switch in preparation for weapons delivery to the target. For scored targets the corridor width is 1000 feet, centered on the run-in centerline to the target, extending to the edge of RSZ A. For tactical targets, the length of the zone also begins at the arming point. However, additional analysis is required to determine the width of the corridor. Flight tracks and the degree of electronic warfare threats need to be considered. The width of the corridor should extend an additional 500 feet beyond all flight tracks. Land uses which have the potential to attract congregations of people are not compatible. Factors such as population density, labor intensity, and the extent and height of structures need to be considered in determining the size of this safety zone.

3. RSZ C defines a minimum level of safety hazard concern and recognizes airspace which is restricted for safety of flight. RSZ C is required to provide the range user tactical maneuvering room. This zone is a three-dimensional concept which sets restrictions both laterally and vertically. For ranges with a single run-in line, RSZ C consists of an approach corridor 6 nautical miles wide and 20 nautical miles long beginning from where RSZ B ends. For ranges with multiple run-in lines and/or multiple targets, a RSZ C is first determined for each possible run-in line to each possible target. Once completed, a composite RSZ C will be constructed that is defined by the outermost limits of each individually defined RSZ C. Vertical requirements for RSZ C are set based on the particular type of range and allow for the safe maneuvering of range users utilizing a wide variety of delivery parameters.

C. COMPATIBLE LAND USE GUIDELINES

Recommended guidelines on land use compatibility for various standard land use categories and Range Safety Zones are shown in Table 1.

D. DEVELOPMENT OF WEAPONS SAFETY FOOTPRINTS

The initial step in the RAICUZ process is preparation of the weapons safety footprints to identify the hazard areas associated with air-to-ground weapons delivery. The composite hazard area, which is the summation footprint of all appropriate footprints for the range, is the minimum area needed for the range. The HAZARD methodology was developed for the Air Force in 1989 and was adopted by the DON in 1994 to define these weapons safety footprints. Each footprint is developed for a specific aircraft, munition,

event type, and delivery parameter. Each footprint has been statistically developed to contain 99.99 percent of all initial and ricochet impacts at the 95 percent confidence interval. Both the DON and U.S. Air Force use this methodology to define range land area requirements necessary to contain the footprints.

The HAZARD methodology includes a software program which incorporates the USN/USMC footprint database, a digitized range database, and a probability distribution function which defines the probability of weapons impact at various locations within the footprint. The footprint database reflects current training and operating procedures for air-to-ground weapons delivery. When required, data will be collected for new tactics or platforms in order to update/modify footprints. Footprint development or updates will be coordinated and funded by CNO (N441).

TABLE 1

LAND USE COMPATIBILITY IN RANGE SAFETY ZONES			
LAND USE	RSZ A	RSZ B	RSZ C
RESIDENTIAL - SINGLE FAMILY, DUPLEX, MOBILE HOMES			3
RESIDENTIAL - MULTIPLE FAMILY HOMES			5
TRANSIENT LODGING			5
SCHOOL CLASSROOMS, LIBRARIES, CHURCHES			5
HOSPITALS, NURSING HOMES			5
AUDITORIUMS, CONCERT HALLS			2
OFFICE BUILDINGS - PERSONAL, BUSINESS, PROFESSIONAL			
COMMERCIAL, RETAIL, MANUFACTURING, UTILITIES			
PLAYGROUNDS, NEIGHBORHOOD PARKS			2
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES		4	
OUTDOOR SPECTATOR SPORTS			2
INDUSTRIAL, WAREHOUSE, SUPPLIES			
LIVESTOCK, FARMING, ANIMAL BREEDING		1	
AGRICULTURE (EXCEPT LIVESTOCK), MINING, FISHING		1	
RECREATIONAL, WILDERNESS AREAS		2	2
LEGEND:			
	INCOMPATIBLE	CONDITIONALLY COMPATIBLE	COMPATIBLE

NOTES:

1. Range Safety Zone B is an area of armed overflight. Land uses which have the potential to attract congregations of people are not compatible. For scored targets, no development within 500 ft either side of the run-in line centerline. For tactical targets, further analysis is required. Factors to be considered: labor intensity, structural coverage.

2. Incompatible when the training mission requries low altitude overflight (less than 500 ft). Height of structures is limited to 50 ft.

3. Suggested maximum density in RSZ C is less than 1 dwelling per 10 acres.

4. Clubhouses, chapels and other facilities where people congregate are not compatible in RSZ B.

5. Noise sensitive uses should be avoided.

SECTION III

NOISE EXPOSURE

A. GENERAL

RAICUZ land use recommendations constitute additional information which shall be applied to land use decision making. For air-to-ground ranges where noise-sensitive land uses exist or the potential for development is present, a detailed noise impact analysis may be warranted. Such noise analysis should address aircraft noise, ordnance (blast noise), and supersonic operations, if applicable.

B. DEVELOPMENT OF NOISE EXPOSURE CONTOURS

The noise impact depicted in the RAICUZ by aircraft noise exposure contours is described by the day-night average sound level (Ldn) or Community Noise Equivalent Level (CNEL) in the State of California, and is based upon the monthly tempo of air operations, type of aircraft, aircraft flight profiles on the range (altitude, speed, and power setting), and the time on range or in adjacent airspace. Noise contours provide the best method of quantifying and depicting noise impact. Noise exposure contours for ranges, airspace, and MTRs will be developed using the average day of the peak month, or average month if peak month data is not available. Noise contours should be developed for existing and proposed operational alternatives to evaluate the potential change in noise exposure on and off the range. Each installation is responsible for maintaining the operational data required to develop noise exposure contours. Aircraft noise contours will be developed using the following Department of Defense programs:

a. For ranges with variable run-in headings, Military Operating Areas (MOA) and Restricted Areas: MOA and Range Noise Map program (MRNMAP);

b. For ranges with a fixed run-in heading: NOISEMAP;

c. And for low-level military training routes (MTR) to and from the range: MRNMAP or Assessment System for Aircraft Noise (ASAN).

Noise from ordnance delivery (blast noise) is impulsive in nature and of short duration. Blast noise is often a source of discomfort for persons, and vibrations of buildings and structures induced by blast noise may result in increased annoyance. Where noise sensitive uses are located in the

vicinity of a range, blast noise contours will be developed using the Department of Defense B-NOISE program. The program is capable of producing average annual or busy day contours as well as single-event contours. Range commanders are advised to contact the Range Planning Office at CNO (N441) for further information and planning guidance.

C. COMPATIBLE LAND USE GUIDELINES

For land use planning purposes, the noise exposure from aircraft is divided into three noise zones: Noise Zone 1 (Ldn or CNEL < 65) is an area of minimal impact where we are not required to attenuate sound; Noise Zone 2 (Ldn or CNEL 65-75) is an area of moderate impact where some land use controls are needed; and Noise Zone 3 (Ldn or CNEL 75 and above) is the most severely impacted area and requires the greatest degree of compatible land use controls. In addition to the noise zones, areas of concern may be defined where noise levels are not considered to be objectionable (less than 65 Ldn or CNEL, e.g.), but some degree of land use controls are recommended; e.g., areas under ingress and egress routes to and from training ranges.

Land use compatibility information and general guidance, by land category, is presented in reference (a). Where specific local land uses are not adequately described in the standard guidance documents, refinement and interpretation of the basic data is encouraged, within the constraints of accepted land use planning practice and with the approval of CNO (N441) or CMC (LFL).

D. SINGLE EVENT NOISE ANALYSIS

Single event noise analysis can be used if it is determined that annual average day or annual busy day noise contours would be inadequate to fully describe the noise environment at the range or on ingress and egress routes to and from the range. Single event noise analysis should provide, in addition to single event aircraft noise levels, analysis of startle effect due to low-level, high speed aircraft operations, speech interference, and sleep disturbance if nighttime operations are envisioned. This policy is consistent with the recommendations of the Federal Interagency Committee on Aviation Noise (FICAN, formerly FICON).

SECTION IV

RAICUZ STUDY CONTENTS

GENERAL

1. RAICUZ studies generally include the following:

a. Description of range operations;

b. Range safety zones;

c. Aircraft noise exposure contours and ordnance (blast noise) contours, if applicable;

d. Description and analysis of Special Use Airspace in support of range operations.

e. Desirable land use controls based upon safety and noise considerations;

f. Analysis of feasible practical operational alternatives to reduce range safety hazards and/or noise and those approved for implementation;

g. Identification of present incompatible uses, both on and off the range;

h. Identification of compatible development for various areas;

i. Description of land use controls currently in effect in the area surrounding the range installation;

j. Recommendations for land use controls, e.g., zoning changes, minimum programs of acquisition, withdrawal of public domain lands, relocation, or such other actions as appropriate;

k. RAICUZ map and land use compatibility matrix for the range installation.

SECTION V

RAICUZ STUDY UPDATES

A. GENERAL

To maintain currency, RAICUZ studies shall be reviewed every two years and updated as necessary to reflect changing operational and training requirements, new aircraft types, new weapons and delivery tactics, tempo of aviation activity, and land use development. In addition, an environmental document required in accordance with reference (b) or (c) may be needed prior to major mission changes. The Commanding Officer or Commanding General of the range installation, in consultation with the Range Planning Office or CMC (LFL), shall recommend whether a new weapons impact or noise analysis is required. Funding requirements for RAICUZ updates are the responsibility of the major claimants for Navy and installations for USMC.

B. WEAPONS IMPACT ANALYSIS

When the RAICUZ is to be updated, weapons footprints should be updated if operations or training tactics have changed since the previous update. Weapons safety footprints will be developed and updated using the HAZARD methodology. This methodology provides a quantitative method for defining the range surface area required to contain ordnance employed in training. Funding for weapons footprint updates are the responsibility of CNO (N441).

C. NOISE IMPACT ANALYSIS

A new range noise study shall be initiated if aircraft operations or aircraft type have changed since the previous study. Noise from ordnance (blast noise) will be described using impulse noise metrics (C-weighted Ldn or CNEL).

D. RAICUZ STUDY CONTENTS

RAICUZ updates shall consist of at least the following:

1. Existing Conditions

An explanation and graphic depiction of the existing impact area and range safety zones, noise contours, land use compatibility, and supporting data which describe range operations and procedures, flight tracks, and a history of range operations since the previous RAICUZ.

2. Future-Year Forecast and Prospective RAICUZ

Based on the currently available unclassified information, the installation will develop a forecast of range operations for a time frame 5 years forward. Operational forecasts may be based upon new mission requirements, changes in training tactics, or proposed changes in range procedures. The RAICUZ update will include a current RAICUZ footprint based on updated weapons impact footprints, noise analysis, and supporting discussion reflecting the operational forecasts. These RAICUZ footprints will provide the necessary guidance to CNO/CMC as to what actions must be taken to assure future mission integrity at the installation.

3. Alternatives Analysis

An analysis of alternatives to mitigate potential weapons impacts or noise impacts shall include local, state and federal government land use policies, acquisition of land or interests therein, target relocation or operational alternatives. Range safety zone or noise contour changes due to proposed operational alternatives shall be fully described.

4. Changes from Prior RAICUZ Study

Changes, if any, from the prior RAICUZ shall be described and illustrated. Documentation shall include analysis of which factors contributed to the change (aircraft, weapons, training tactics, range operations and procedures, etc.)

5. Impact Analysis

An analysis and graphic depiction of existing and potential land use incompatibilities and their impact on future range capabilities and operations shall be included. The RAICUZ update shall also discuss strategies to address land use management or development of the impacted areas.

E. RAICUZ STUDY UPDATE

The RAICUZ study update supercedes the original study, and shall be provided to all recipients of that study under cover of a letter which indicates the reason for the update.

F. APPROVALS

CNO/CMC approval is required prior to distribution to the public of any revised or updated RAICUZ information.

G. ENVIRONMENTAL IMPACT OF OPERATIONAL CHANGES

Several parameters must be monitored locally to ensure that the RAICUZ continues to reflect the best information available on range safety zones and noise; e.g., the type of aircraft operating at the range, training tactics, range operating procedures, and operational alternatives implemented.

When operational changes are proposed, such as new delivery tactics or type of ordnance, the range installation is required to determine whether NEPA documentation is required. Navy installations shall forward their recommendations to the Range Planning Office via chain of command. Marine Corps installations shall submit their recommendation concerning such documentation to CMC (LFL) for review. CNO (N441), in coordination with CNO (N45), or CMC (LFL) will advise the installation as to the need for NEPA documentation in accordance with reference (b) or (c), and compliance with the Endangered Species Act, the Clean Air Act, and historic preservation legislation in accordance with references (b) and (d). If such documentation is required it shall be prepared prior to the implementation of any proposed operational change.

SECTION VI

RAICUZ IMPLEMENTATION

A. GENERAL

Each Navy and Marine Corps air-to-ground range installation listed in Appendix I shall actively pursue implementation and compliance with the RAICUZ program. Program implementation includes development of a current safety and noise analysis for the range, cooperation of local and state governments, other federal agencies, consideration of operational alternatives, complaint response programs for residents of surrounding communities, and strategies to protect the long term viability of the range.

B. COMMUNITY IMPLEMENTATION

The Department of the Navy's RAICUZ policy is predicated on promoting compatibility between air-to-ground range installations, neighboring communities, other federal agencies (e.g. Department of the Interior), and Native American tribes responsible for land management in the vicinity of Navy and Marine Corps ranges. This policy recognizes the local government's responsibility to protect public health, safety and welfare through controls like zoning ordinances, building codes, subdivision regulations, building permits, and disclosure statements. Surrounding areas can be allowed to develop to the highest and best compatible use. Successful implementation of such a program depends on a close working relationship between the range installation and community leaders. Acquisition should not be discussed as an encroachment solution unless and until all community-oriented strategies are unsuccessful or inappropriate. The activity should continually inform local governments, state governments, other federal agencies, citizens groups, and the general public on: (a) the requirements of military flying; (b) range operations; (c) the efforts underway and planned to reduce potential off-range weapons impacts and noise; and (d) the local command's position on specific land use issues. Range installation representatives, primarily commanding officers or commanding generals, and their community liaison officers, must take every opportunity to meet with and make presentations to local governments, particularly the planning and zoning agencies.

Although the emphasis of the RAICUZ implementation effort must be on areas within the RAICUZ footprint, the range installation can comment on land use issues outside the

footprint which might impact on it, e.g. large scale developments bordering the RAICUZ footprint, or transportation system or utility corridor developments which could make the RAICUZ area more desirable for development. The range installation must be considered a major land use in the local community. Development which occurs up to the RAICUZ boundary could prevent mission changes or mission expansion in the future. Therefore, commanding officers or commanding generals and their staffs should monitor proposed development beyond the RAICUZ boundary, and, if needed, to present those concerns in appropriate local forums. CNO (N441) and/or CMC (LFL) will provide assistance as needed.

C. DOCUMENTATION OF LOCAL EFFORTS

Records of important discussions, negotiations, testimony, etc., with and before local officials, boards, etc., must be maintained by the local command for at least seven years. This will ensure that documentation is available to indicate all reasonable and prudent efforts were made to preclude incompatible land use through cooperation with local and state government officials and other federal agencies as appropriate, and that all recourse to such actions has been exhausted.

SECTION VII

REAL PROPERTY GUIDANCE

A. ACQUISITION POLICY

When threats to operational integrity from incompatible development (encroachment) are noted, and when local communities are unwilling or unable to take the initiative in combating the threat via their own authority, consideration can be given to land acquisition or withdrawal of public lands when appropriate. Documentation of community unwillingness or inability will be required to support acquisition projects. Where the mission of the air-to-ground range is imminently threatened, acquisition of fee title or restrictive easements over the impacted lands in any weapons impact or noise zone may be appropriate to maintain operational integrity.

B. ENCROACHMENT INDICATORS

The importance of the air-to-ground range having a sensitivity to long-range encroachment indicators cannot be overemphasized. Local community capital improvement plans and long-range land-use plans provide clues far in advance of actual encroachment actions. These plans generally address land areas far greater than the RAICUZ and must be evaluated to determine their influence on the RAICUZ area either directly or indirectly.

C. GUIDELINES FOR ACQUISITION/RETENTION OF REAL ESTATE WITHIN RAICUZ

This instruction shall not be used as the sole justification for either the acquisition or the retention of owned interests beyond the minimum required to protect the Government. Detailed procedural requirements related to the Navy's real estate program are set forth in NAVFAC P-73 (Real Estate Procedural Manual) (NOTAL), or as implemented within the Marine Corps by MCO P11000.14 (NOTAL).

D. REAL ESTATE INTERESTS TO BE CONSIDERED FOR RAICUZ

When it is necessary for the Department of the Navy to acquire interests in land, a careful assessment must be made of the type of interest to be acquired or withdrawn. The types of interests to be considered, either in the form of restricted use easements or in fee, include low and frequent overflights, aircraft noise, prohibiting light emissions that interfere with pilot vision, prohibiting

electromagnetic and radio frequency emissions that interfere with aircraft communication or navigation equipment, control of the height of trees or other obstructions that interfere with aircraft operations, and prohibiting entry of persons. The air-to-ground range command shall develop a real property management plan to establish standard operating procedures to maintain Navy and Marine Corps control of acquired property interests. This plan should also include updated base mapping incorporating RAICUZ areas containing land use restrictions.

APPENDIX I

NAVAL/MARINE CORPS INSTALLATIONS REQUIRING RAICUZ STUDIES

CINCPACFLT

WHIDBEY ISLAND COMPLEX:

R-6707 QUEETS (SEA LION ROCK)

R-5701/5706 BOARDMAN (in caretaker status)

FALLON COMPLEX:

R-4803 B-16

R-4804 B-17

R-4810 B-19

R-4802/R-4813 B-20

EL CENTRO COMPLEX:

R-2512 INKEY BARLEY/KITTY BAGGAGE

R-2510 SHADE TREE/LOOM LOBBY

SOCAL OFFSHORE COMPLEX:

SAN CLEMENTE ISLAND SHORE BOMBARDMENT AREA (SHOBA)

CINCLANTFLT

R-4002 BLOODSWORTH ISLAND

VIRGINIA CAPES COMPLEX:

R-5302 PALMETTO POINT RANGE

R-5313 STUMPY POINT RANGE

R-5314 NAVY DARE COUNTY RANGE

R-6606 DAM NECK RANGE

JACKSONVILLE COMPLEX:

R-2906 RODMAN TARGET

R-2907 LAKE GEORGE COMPLEX TARGETS

R-2910 PINECASTLE COMPLEX TARGETS

R-7104 ATLANTIC FLEET WEAPONS TRAINING FACILITY (AFWTF)

CNET

R-6312 MCMULLEN COUNTY RANGE

R-4404 NOXUBEE COUNTY RANGE

COMMANDANT, MARINE CORPS

TWENTY NINE PALMS COMPLEX (R-2501)

CAMP PENDLETON COMPLEX (R-2503A/B/C, R-2533)

YUMA COMPLEX:

R-2301W MOVING SAND/CACTUS WEST/TACTS

R-2507 CHOCOLATE MOUNTAIN COMPLEX

QUANTICO COMPLEX:

R-6608

CHERRY POINT COMPLEX:

R-5306A BT-9/BT-11

R-5306D BT-3/BROWNS ISLAND/G-10 IMPACT AREA

R-5306D/E K-2 IMPACT AREA

BEAUFORT:

R-3007 TOWNSEND RANGE